ABSTRACT OF THE DISCLOSURE

A shape of an inputted casting product is divided into a plurality of cells. A heat-transfer solidification of a molted metal is analyzed. A value of $G/\sqrt{R}$ (G: temperature gradient, R: cooling rate) is computed in each cell. A corresponding value, as a specific gravity value, corresponding to $G/\sqrt{R}$ in each cell is retrieved from a database unit to be assigned to each cell. Cells included in a region are stratified and counted with respect to each corresponding value. Each counted number is multiplied by each corresponding cell volume to obtain a volume. The volume is multiplied by each corresponding value to obtain a product. All the products corresponding to all the corresponding values within the region are summed up and then divided by a region volume to obtain a shrinkage porosity occurrence rate as a specific gravity value of the region.

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